The Age of the Renminbi is Just Beginning

by

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1. Introduction

The age of the Renminbi is just beginning. In order to understand the rise of the Renminbi, it is important to realise that the centre of gravity of the World economy, in terms of both GDP and international trade, has been gradually shifting from North America and Western Europe to East Asia, and within East Asia from Japan to China, over the past couple of decades. China has become the second largest economy by GDP as well as the second largest trading nation in the World. The Chinese economy has also been growing and continues to grow at much higher rates than North American and European economies and Japan. China, with a national saving rate in excess of 40%, is a potential large foreign direct and portfolio investor to the rest of the World.

2. The Chinese Economy in the Global Context

China has made tremendous progress in its economic development since it began its economic reform and opened to the World in 1978. China is currently the fastest growing economy in the World—averaging 9.8% per annum over the past 36 years. It is historically unprecedented for an economy to grow at such a high rate over such a long period of time. Between 1978 and 2013, Chinese real GDP grew more than 26 times, from US$356.5 billion to US$9.32 trillion (in 2013 prices), overtaking Japan and becoming the second largest economy in the World, after the U.S., in 2010. By comparison, the U.S. GDP (approx. US$16.8 trillion) was less than 2 times Chinese GDP in 2013.

[1] Lawrence J. Lau is Ralph and Claire Landau Professor of Economics, The Chinese University of Hong Kong, and Kwoh-Ting Li Professor in Economic Development, Emeritus, Stanford University. This is a revised and expanded version of his presentation at the Economic Summit of China Development Forum 2014, "Is the Age of RMB Coming?" Session, Beijing, 22 March 2014. All opinions expressed herein are the author's own and do not necessarily reflect the views of any of the organisations with which the author is affiliated. The author wishes to thank Mrs. Ayesha Macpherson LAU, Professor Yanyan XIONG and Professor Huanhuan ZHENG for their invaluable comments and suggestions but retains all responsibility for all errors.

Chart 1: Real GDPs and Their Annual Rates of Growth: China & the U.S. (2013 US$)

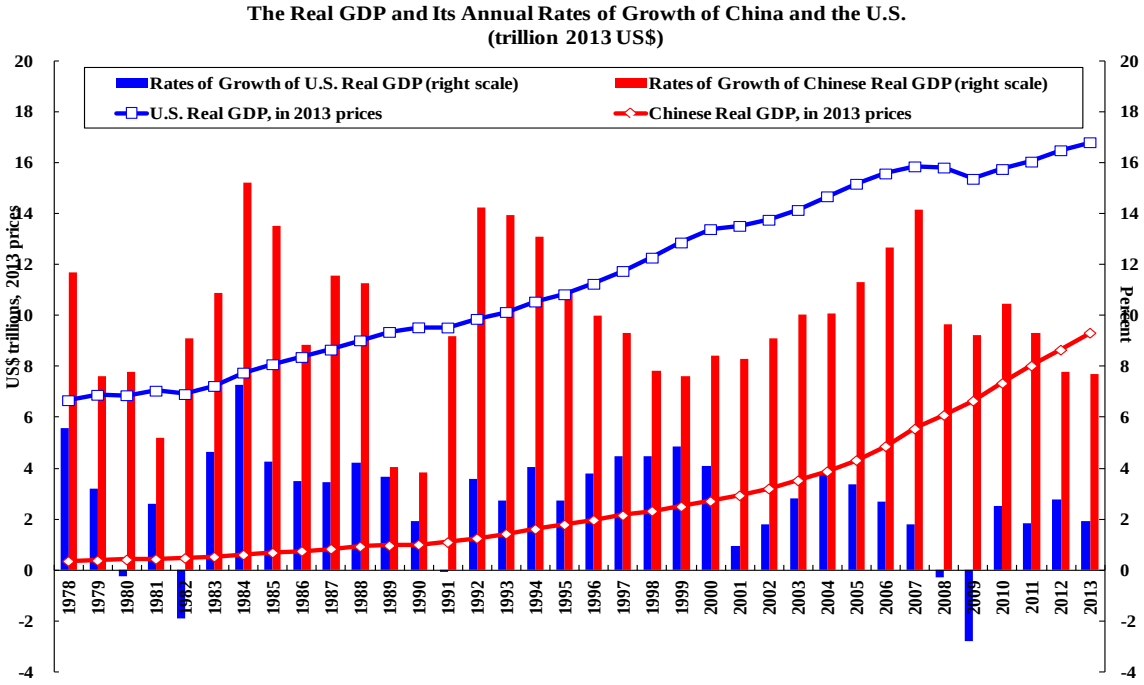
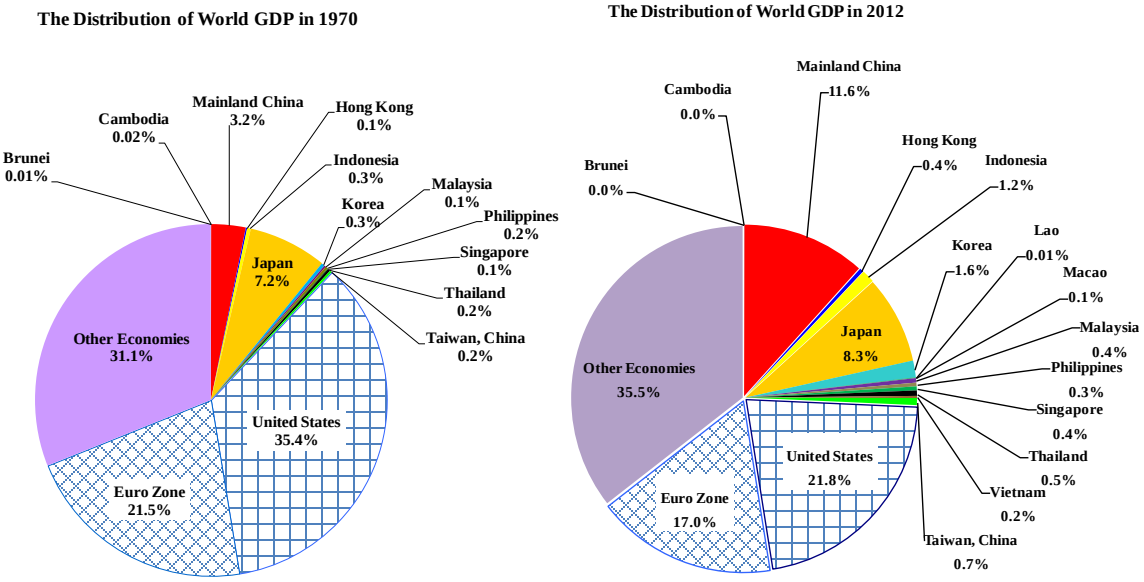


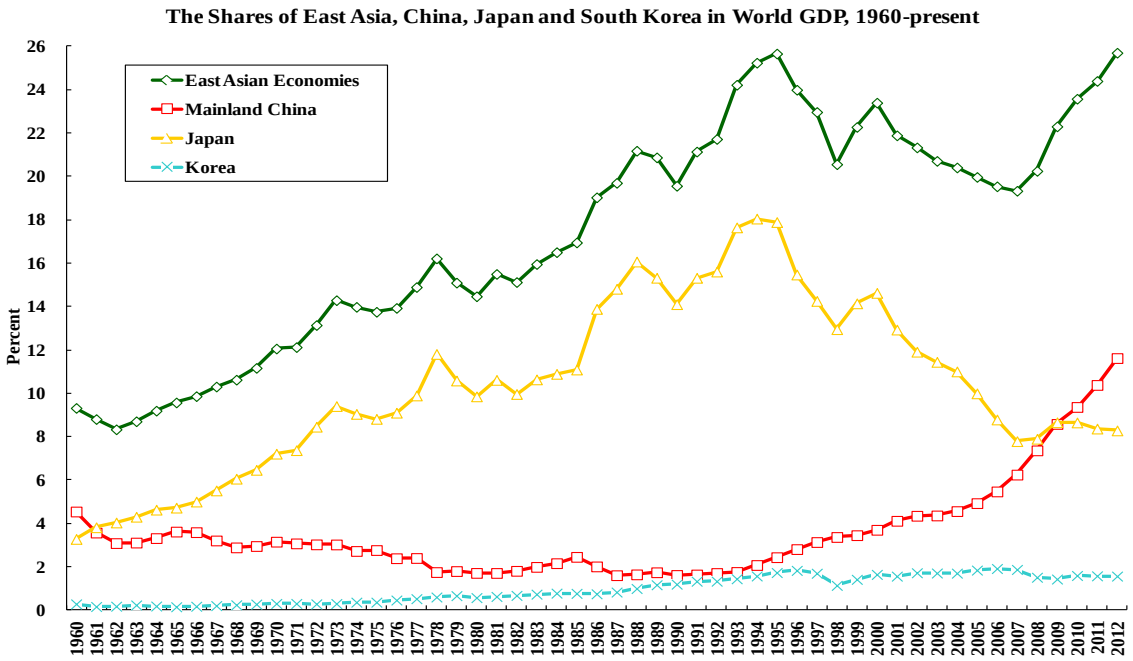
Chart 2: The Distribution of World GDP, 1970 and 2012, US$



The East Asian (defined as the 10 Association of Southeast Asian Nations (ASEAN) + 3 (China, Japan and the Republic of Korea) share of World GDP rose from just above 10%

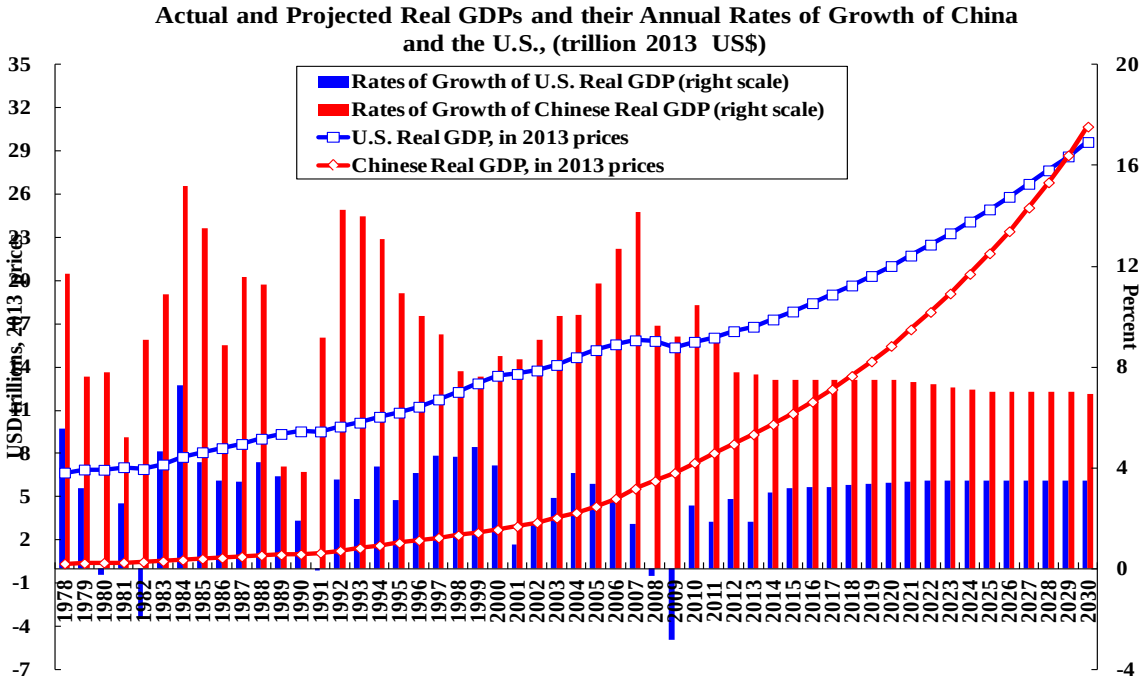
in 1970 to approximately 25% in 2012. The Japanese share of World GDP declined from a peak of 18% in the mid-1990s to 8% in 2012. The (Mainland) Chinese share of World GDP rose from 3% in 1970 and only 4% in 2000 to over 11% in 2012.

Chart 3: The Shares of East Asia, China, Japan and South Korea in World GDP, 1960-present



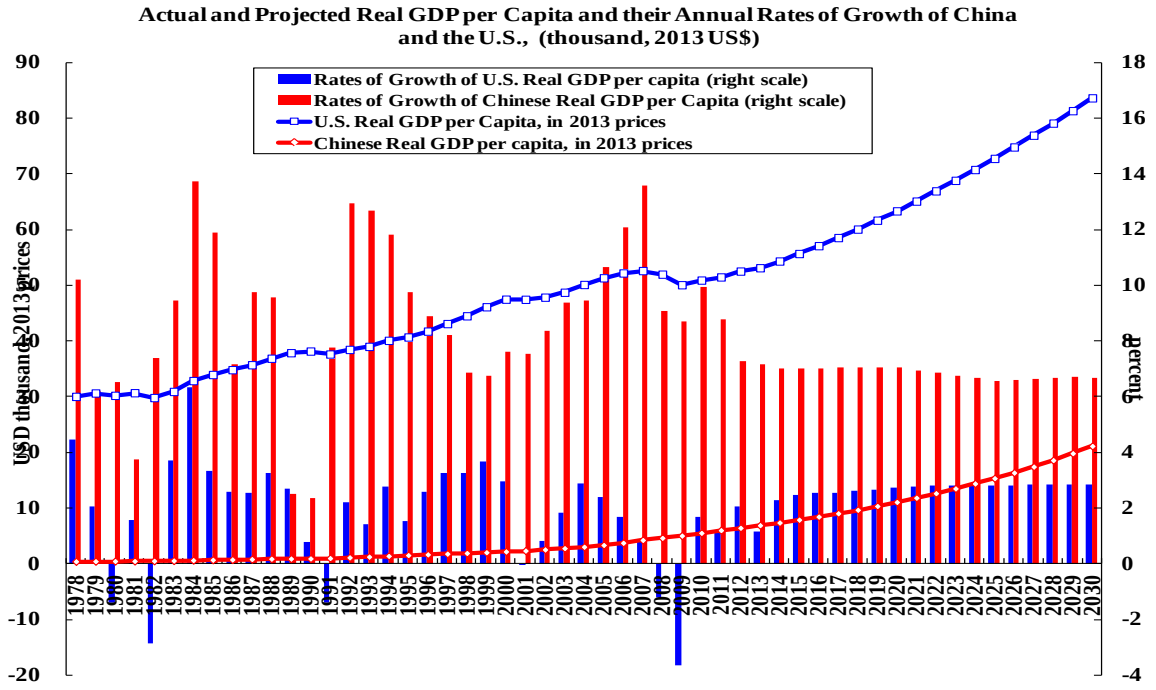
It is projected that the Chinese and the U.S. economies will grow at average annual real rates of approximately 7.3% and 3.3% respectively between 2013 and 2030. Chinese real GDP is projected to catch up to U.S. real GDP in approximately 15 years' time--around 2029, at which time both Chinese and U.S. real GDP will exceed US$28 trillion (in 2013 prices). This is more than three times the Chinese GDP and not quite two times the U.S. GDP in 2013. By then, China and the U.S. will each account for approximately 15% of World GDP.

Chart 4: Actual and Projected Real GDPs and Their Annual Rates of Growth: China & the U.S.



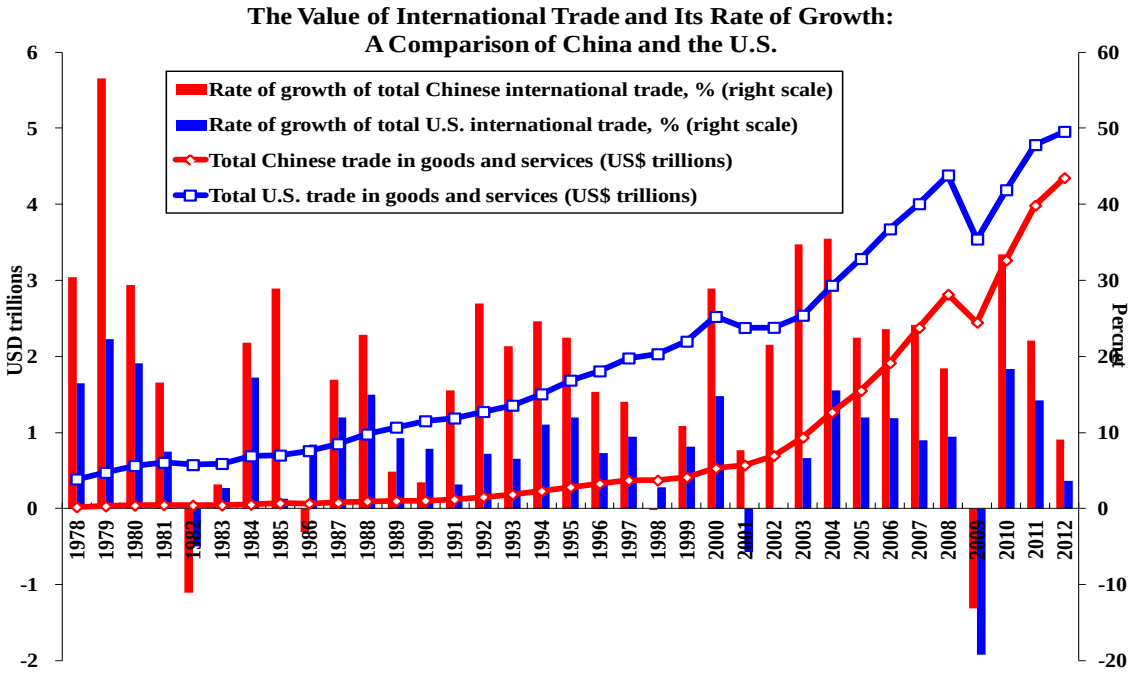
Despite its rapid growth, in terms of its real GDP per capita, China is still a developing economy. Between 1978 and 2013, Chinese real GDP per capita grew 18.5 times, from US$370 to US$6,850.5 (in 2013 prices). By comparison, the U.S. GDP per capita of approximately US$53,086, was 7.7 times Chinese GDP per capita in 2013. By 2030, the Chinese real GDP per capita is projected to exceed US$21,000 (in 2013 prices), which would still be just a quarter of the projected then U.S. real GDP per capita of US$83,600. It will take around 45 years, almost till 2060, for China to catch up to the United States in terms of real GDP per capita.

Chart 5: Actual and Projected Real GDP per Capita's and their Annual Rates of Growth



Chinese international trade has grown very rapidly, especially after it acceded to the World Trade Organization (WTO) in 2001. China has become the second largest trading nation in the World in terms of the total value of international trade in goods and services, just after the U.S. While China is the largest exporting nation in terms of goods and services, followed by the U.S., the U.S. is the largest importing nation in terms of goods and services, followed by China. China is also the largest exporting nation in terms of goods alone, followed by the U.S. The U.S. is the largest exporting as well as importing nation in terms of services, followed by respectively the United Kingdom and Germany.

Chart 6: International Trade & Its Rate of Growth: A Comparison of China and the U.S.



In 1970, the United States and Western Europe together accounted for over 60% of World trade. By comparison, East Asia and South Asia combined accounted for less than 10% of World trade. In 1990, the United States and Western Europe together still accounted for approximately 55% of World trade while East Asia and South Asia combined accounted for just over 10% of World trade. By 2012, the share of United States and Western Europe in World trade has declined to below 45% whereas the share of East Asia and South Asia has risen to 30%. The regional distribution of international trade parallels approximately the regional distribution of GDP.

The East Asian (defined as the 10 Association of Southeast Asian Nations (ASEAN) + 3 (China, Japan and the Republic of Korea) share of World trade rose from 9.9% in 1970 to 25.8% in 2012. The Chinese share of World trade rose from 0.7% in 1970 to 10.7% in 2012. Chinese international trade accounted for 41.2% of East Asian international trade in 2012. China runs a trade deficit with almost every East Asian economy.

Chart 7: The Distribution of Total International Trade in Goods and Services, 1970

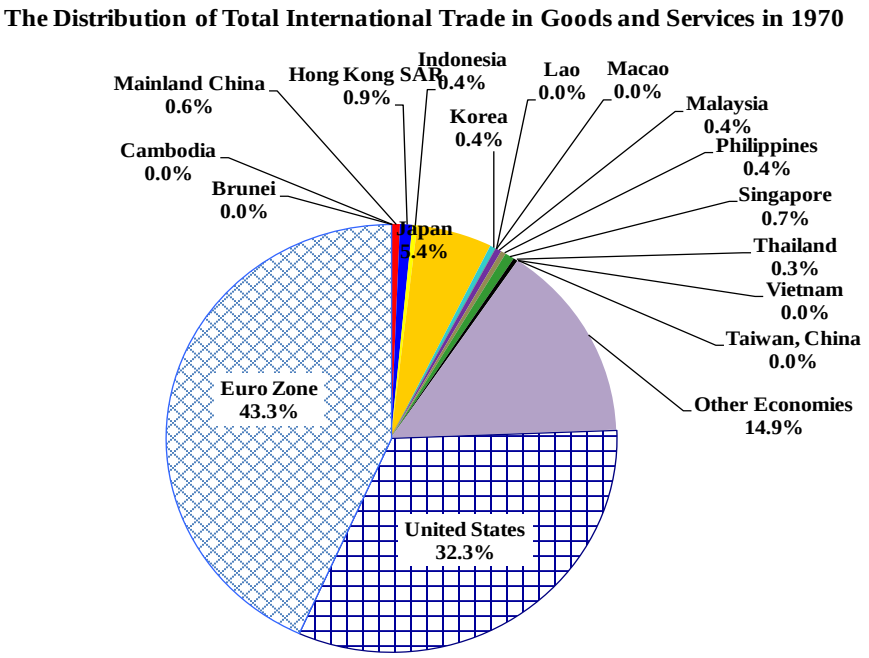


Chart 8: The Distribution of Total International Trade in Goods and Services, 2011

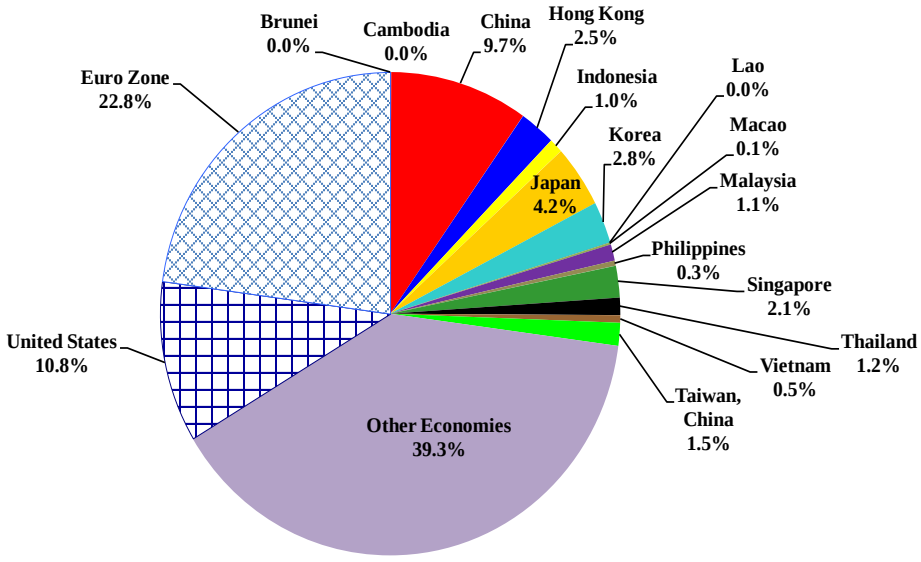


Chart 9: The Rising Share of East Asian Trade in Total World Trade, 1960-present

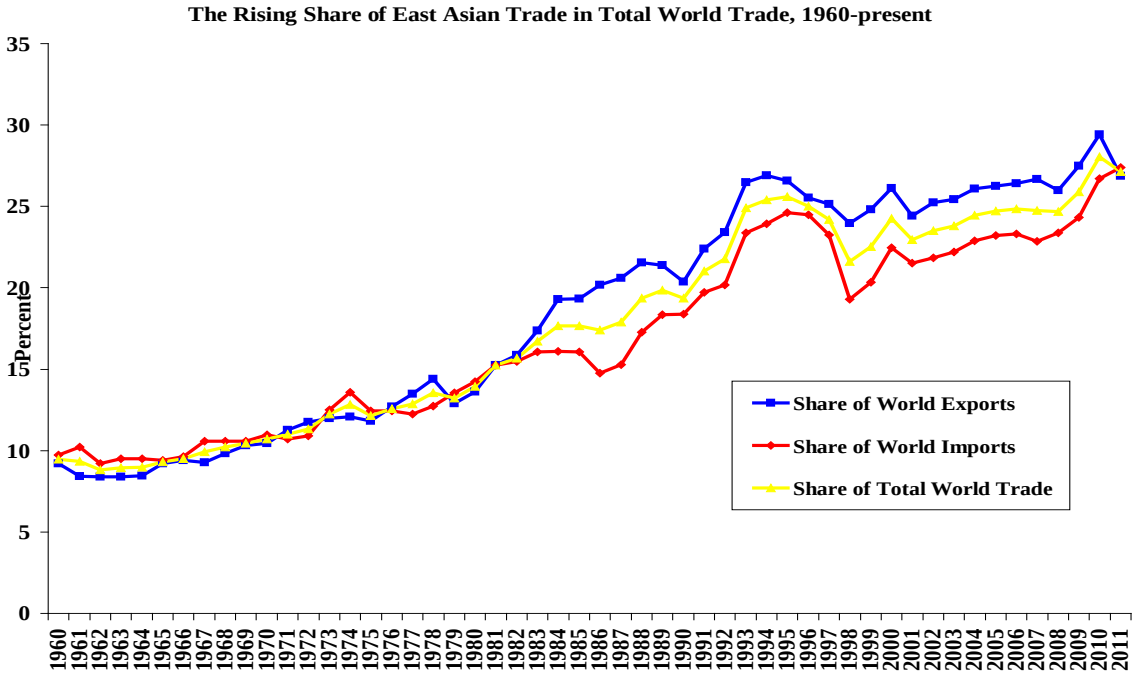


Chart 10: The Share of China in Total World Trade, 1950-present

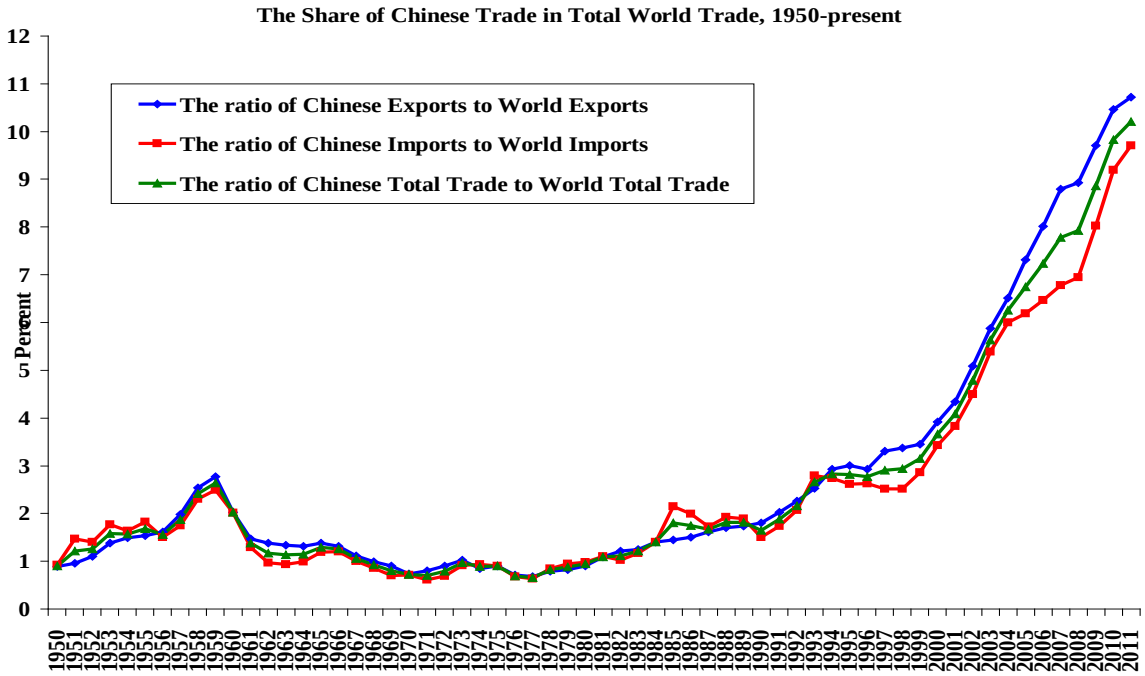
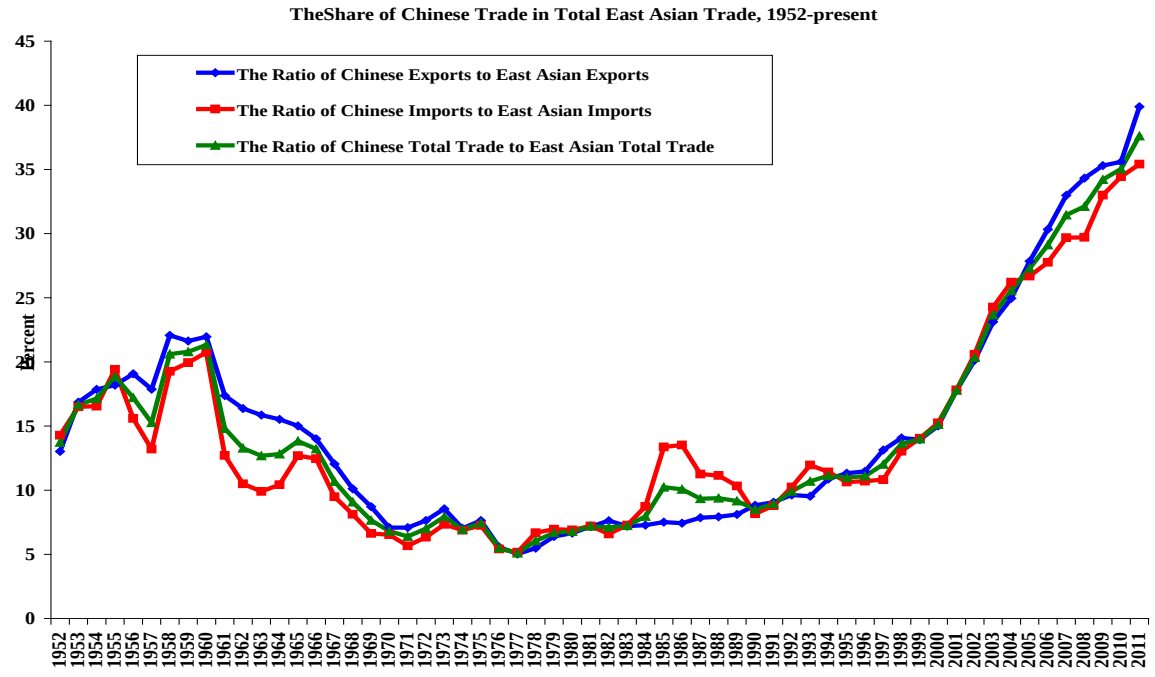


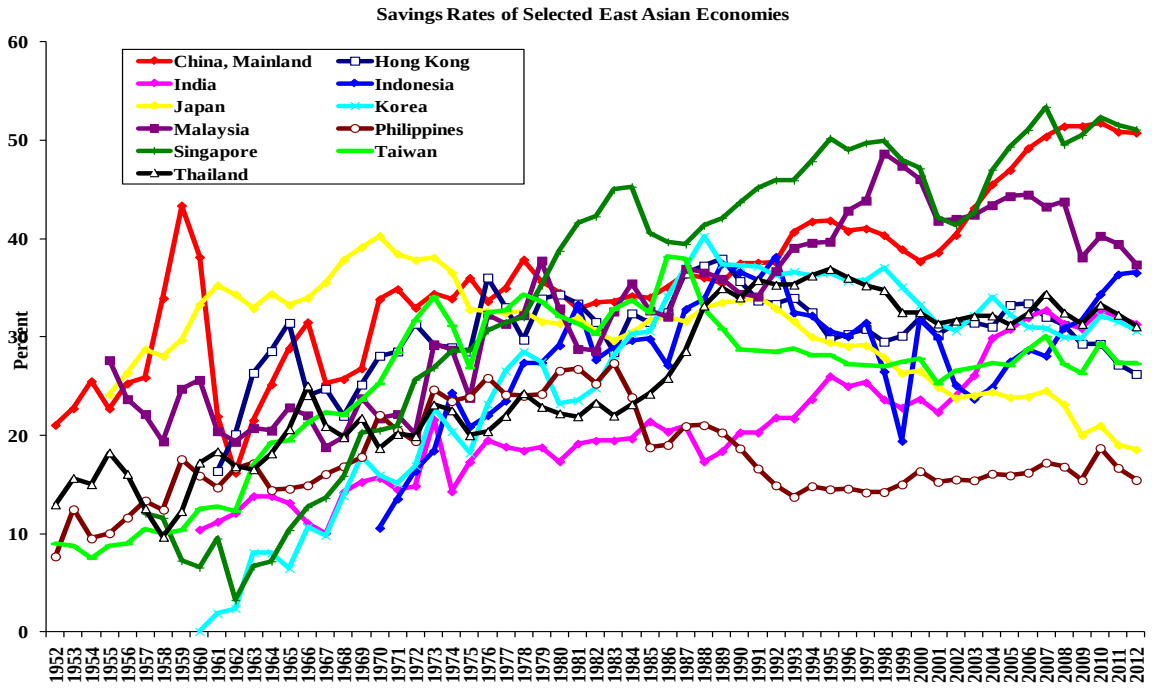
Chart 11: The Share of China in Total East Asian Trade, 1952-present



Economic growth in East Asia has been under-pinned by a high domestic saving rate (see Chart 12), with the Philippines being a notable exception. A high domestic saving rate means, among other things, that most of the East Asian economies can finance all of their domestic investment needs from their own domestic savings alone. Thus, they can achieve a high rate of growth of their tangible capital stocks without having to depend on the more fickle foreign capital inflows (including foreign direct investment, foreign portfolio investment, foreign loans or foreign aid).

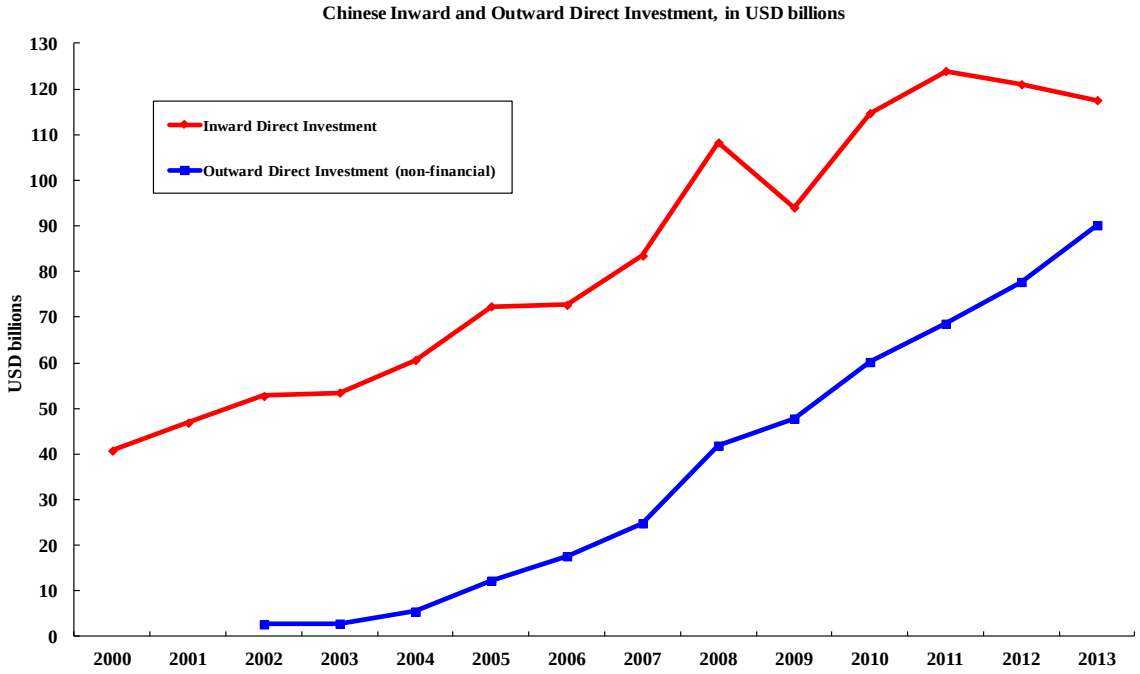
Chinese economic growth since 1978 has been supported by a high domestic saving rate, on the order of 30% and above, enabling a consistently high domestic investment rate. The Chinese saving rate has fluctuated around 40% since the early 1990s and has at times approached or even exceeded 50% in more recent years.

Chart 12: Saving Rates of Selected Asian Economies (1952-present)



Chinese outbound investment, both direct and portfolio, has also been increasing since the mid-2000s. If current trends continue, China may well become a net foreign direct investor in a couple of years, reversing the direction of one of the sources of increase of its foreign exchange reserves. Chinese enterprises and households are poised to become major foreign direct as well as portfolio investors overseas, based on the huge pool of savings and the desire and need for portfolio diversification. They will create a demand for Renminbi-denominated assets abroad.

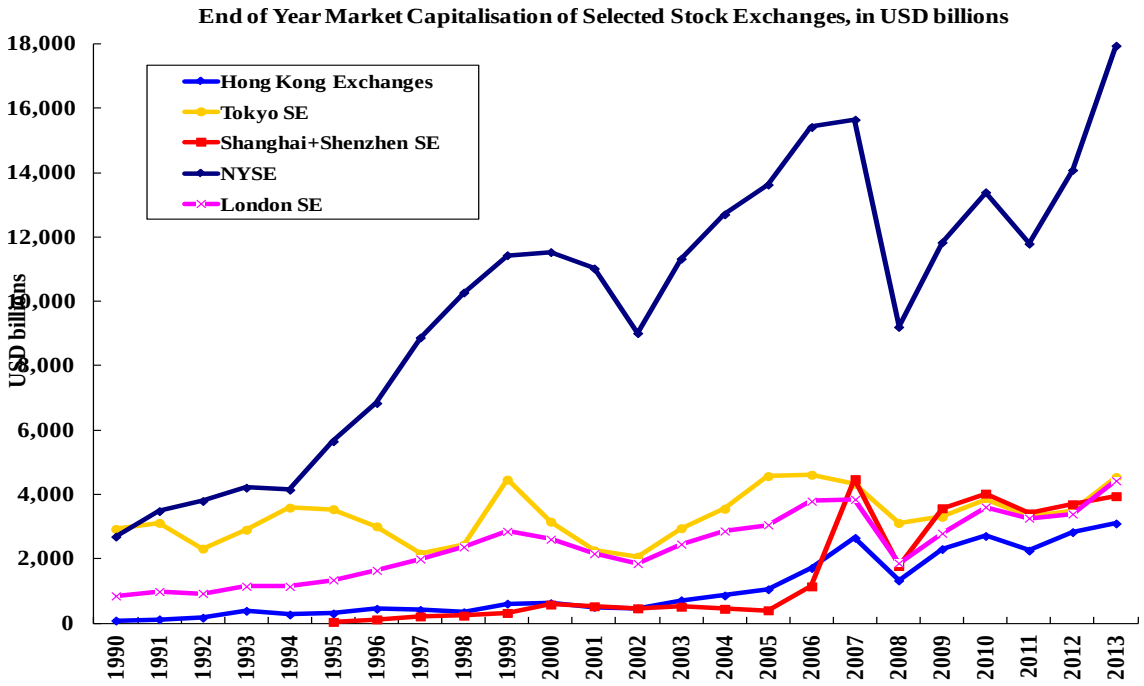
Chart 13: Chinese Inbound and Outbound Foreign Direct Investment, in US$ Billions



Over the years, the capital markets in East Asian economies have also grown. At year end 2013, the combined market capitalisation of all East Asian stock exchanges amounted to US$15.8 trillion, behind the market capitalisation of U. S. stock exchanges of US$24.0 trillion but ahead of the market capitalisation of all European stock exchanges combined of US$13.2 trillion.[2] Again, this is a relatively recent phenomenon. The Chinese stock exchanges at Shanghai and Shenzhen did not even get started until the mid-1990s. The total market capitalisation of Chinese stock exchanges is now comparable in magnitude to that of Hong Kong, London and Tokyo.

[2] The U.S. stock exchanges included are NASDAQ and NYSE; the European stock exchanges included are Athens Exchange, BME Spanish Exchanges, Budapest SE, Cyprus SE, Deutsche Borse, Irish SE, London SE group, Luxembourg SE, NYSE Euronext (Europe), Oslo Bors, and SIX Swiss Exchange; the East Asian stock exchanges included are Bursa Malaysia, Hong Kong Exchanges, Indonesia SE, Korea Exchange, Philippine SE, Shanghai SE, Shenzhen SE, Singapore Exchange, Taiwan SE, Thailand SE and Tokyo SE Group. The data are taken from the World Federation of Exchanges.

Chart 14: End of Year Market Capitalisation of Selected Stock Exchanges



3. The Internationalisation of the Renminbi

The internationalisation of the Renminbi can mean different things to different people. It basically implies the use of the Renminbi for various purposes outside of Mainland China.

(1) The Renminbi as a "Unit of Account" in cross-border trade transactions. This means that the prices and values are denominated or quoted in terms of the Renminbi (however, they do not necessarily imply settlement in Renminbi).

(2) The Renminbi as a "Medium of Exchange". This means the use of the Renminbi for actual settlement of transactions, including cross-border trade transactions between China and its trading partner countries and regions, and eventually possibly between and among its trading partner countries and regions themselves, on a voluntary basis.

(3) The Renminbi as a "Store of Value". This means the holding of Renminbi and Renminbi-denominated assets long term by individuals and institutions. When Renminbi is held by central banks and monetary authorities of other countries and regions, it serves as a foreign exchange reserve currency.

(4) The Renminbi as an "International Funding Currency". This means money is raised by non-Chinese entities through the issuance of financial instruments such as bonds and stocks denominated and if appropriate traded in Renminbi.

(5) The Renminbi as a "Major International Reserve Currency" like the U.S. Dollar and the Euro, widely held in the form of Renminbi or Renminbi-denominated assets by central banks and monetary authorities of other countries and regions as part of their foreign exchange reserves.

Even though the Renminbi is not de jure fully or freely convertible, it has gradually become de facto convertible in some economies in East Asia because of its wide general voluntary acceptance. The Renminbi is today widely accepted and used in Hong Kong, Macau, Laos, Myanmar, and other border areas at the retail level as a medium of exchange and a store of value even though it is not legal tender in these places. Chinese visitors to Hong Kong use the Renminbi freely in the streets to pay for goods and services. The Renminbi can also be exchanged for Hong Kong Dollar freely in the streets and through the Hong Kong Dollar into other "hard" foreign currency such as the US Dollar and the Euro.

Chinese exporters and importers in selected provinces, municipalities and regions have been permitted to settle their cross-border trade transactions in Renminbi in Hong Kong since 2009 on a voluntary basis, by mutual agreement between the exporter and the importer in each case. The practice was extended to the whole of Mainland China at the end of 2011 and settlement was allowed to take place in locations other than Hong Kong such as Singapore and Taipei. The Renminbi is increasingly used as an invoicing and settlement currency for cross-border transactions, especially those involving Chinese enterprises as transacting parties.

The proportion of Mainland Chinese international trade settled in Renminbi has grown rapidly, from almost nothing in 2010Q1 to US$240 billion in 2013Q4 or 21.8% of the total value of trade in goods and services. In absolute value, some US$960 billion of Chinese international trade is now settled in Renminbi annually. The Renminbi is also used for foreign direct investment and portfolio investment both inbound and outbound, but its use can be further liberalised.

The central banks and monetary authorities of many countries and regions have entered into swap agreements with the People's Bank of China, the central bank of China, which facilitates the use of Renminbi as an invoicing and settlement currency.

Chart 15: Renminbi Settlement of Chinese Cross-Border Trade, Billion US$ and Percent

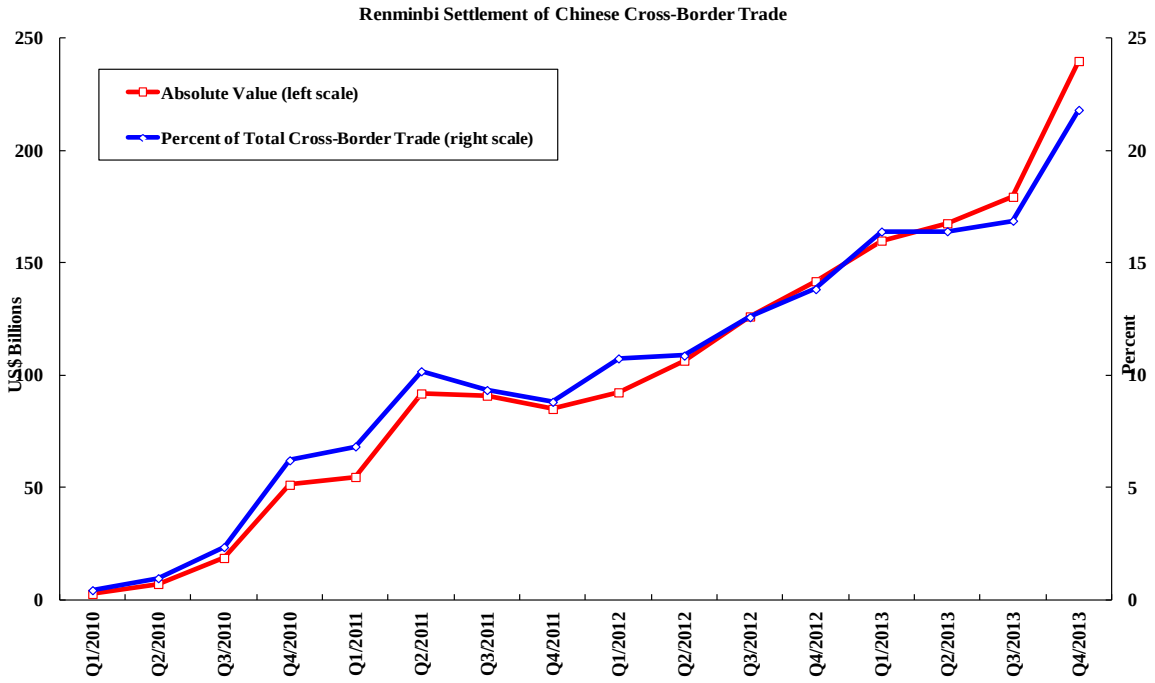
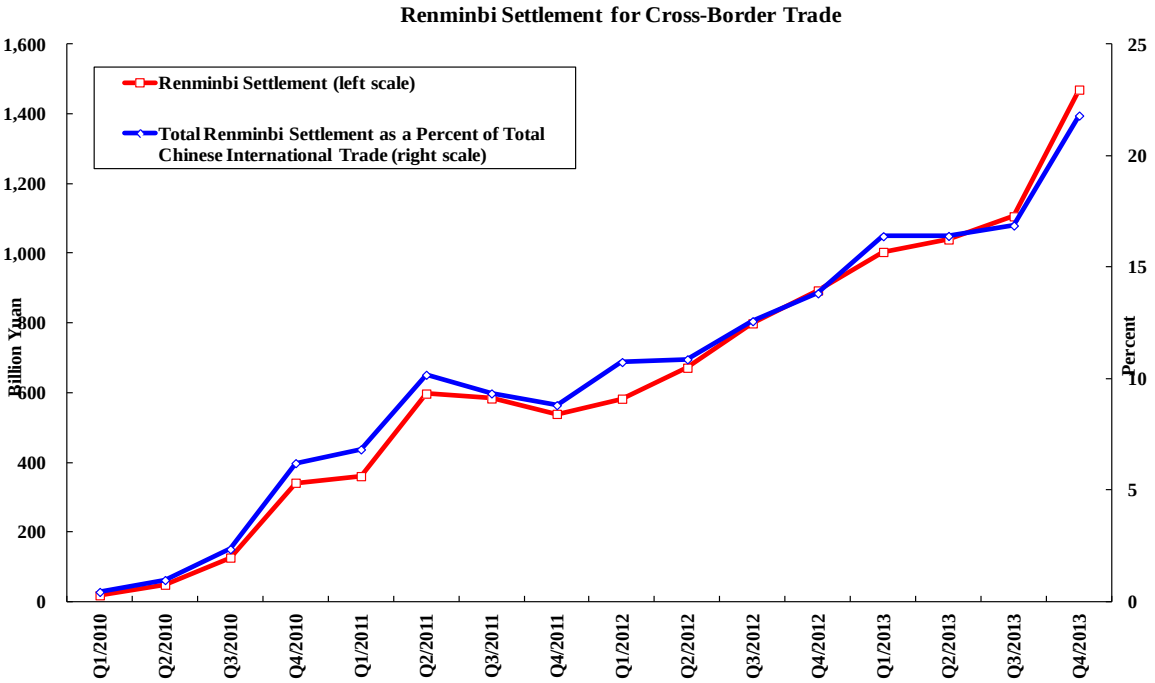
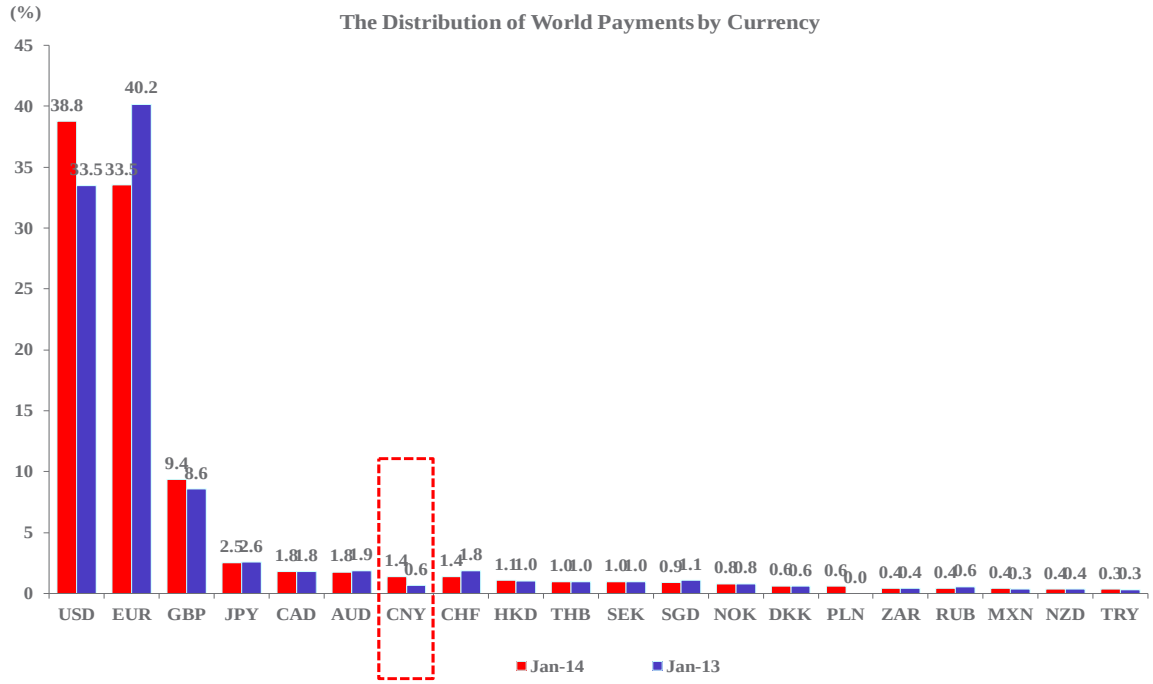


Chart 16: Renminbi Settlement of Chinese Cross-Border Trade, Billion RMB and Percent



In Chart 17 chart, the distribution of world payments by currency in January 2014 and January 2013 is presented. The U.S. Dollar has re-taken the top spot as the most widely used international medium of exchange from the Euro, accounting for 38.8% of all payments, followed by the Euro with 33.5%. (The European sovereign debt crisis and the continuing recession in the Euro Zone must have been a factor in the decreased use of the Euro for international payments.) The share of Renminbi in world payments has increased rapidly from 0.6% (the 13th place) to 1.4% (the 7th place) between 2013 and 2014, overtaking the Swiss Franc and the Hong Kong Dollar.

Chart 17: The Distribution of World Payments by Currency, 2013 and 2014



In Charts 18 and 19, the share of each major country in world trade is compared to the share of its currency used in world trade settlement in 2010 and 2012-2013 respectively. Even though China accounted for more than 10% of world trade, Renminbi accounted for less than 1% of world trade settlement; while the U.S. had a similar share of world trade as China, the U. S. Dollar accounted for more than 35% of world trade settlement. While the use of Renminbi for world trade settlement has increased significantly in just a few years, there is still plenty of room for the expansion of the use of Renminbi for cross-border trade settlement in the future.

Chart 18: Distribution of World Trade Settlement Currencies versus World Trade, 2010

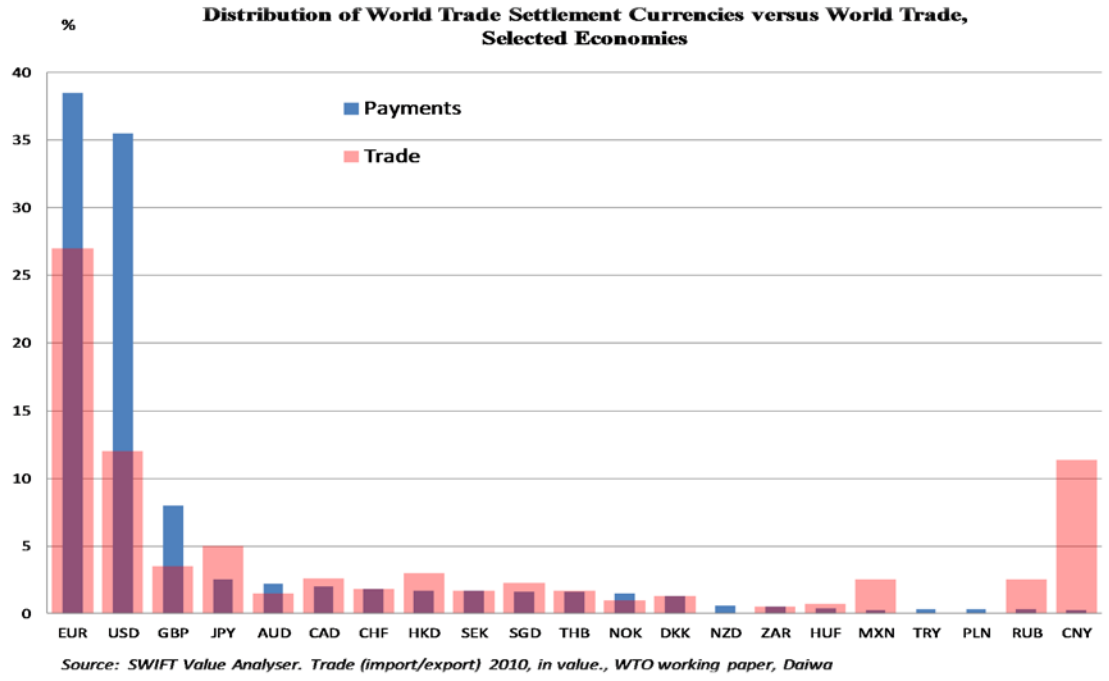
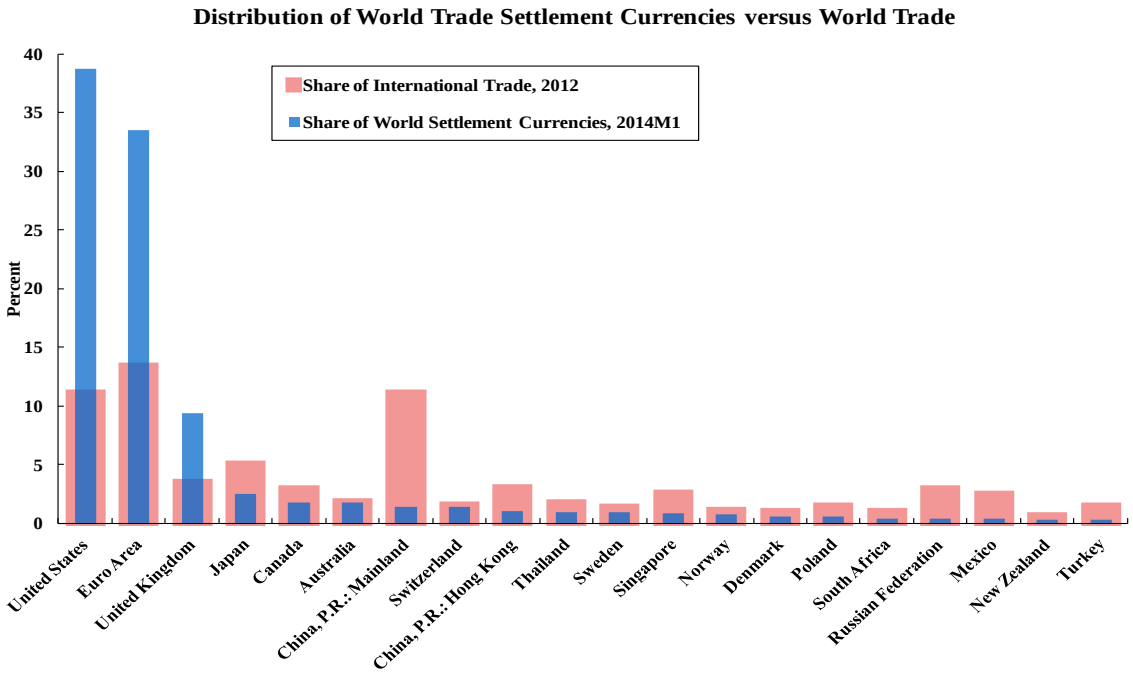


Chart 19: Distribution of World Trade Settlement Currencies versus World Trade, 2012-2013



The benefits to Chinese exporters and importers and their trading partners in the importing and exporting countries and regions of using either the Renminbi or the latter's own respective local currencies as the invoicing and settlement currency for cross-border transactions, instead of a third currency such as the U.S. Dollar or the Euro, include:

(1) Reduction of the transactions costs of cross-border transactions (one currency conversion rather than two);

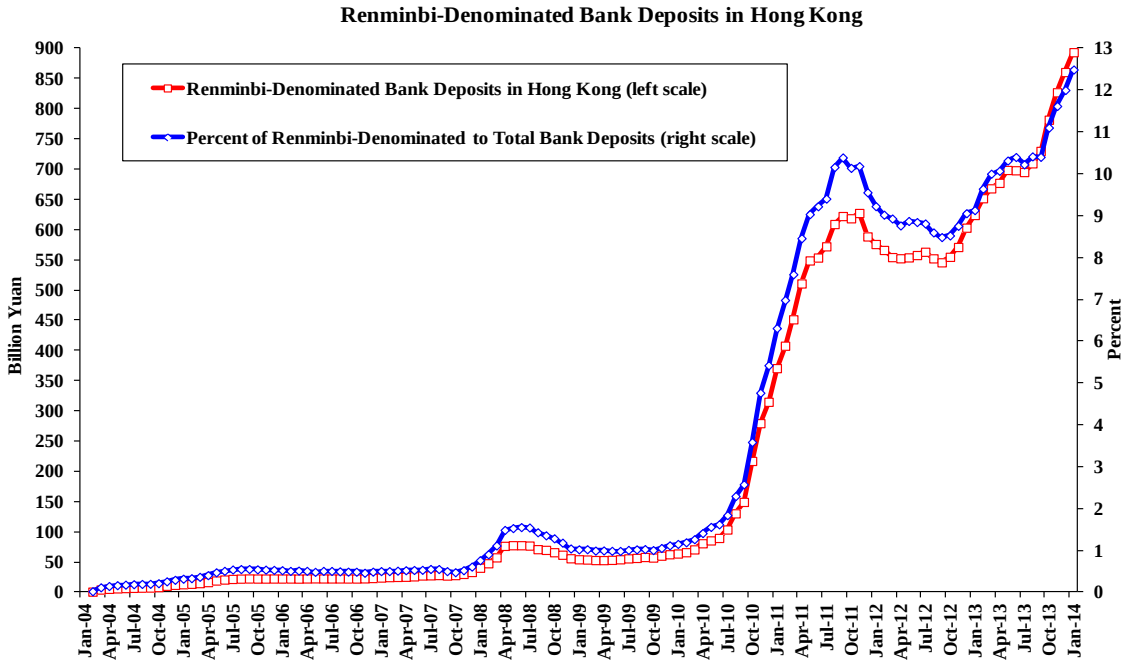
(2) Reduction of foreign exchange risk for exporters and importers of goods and services (one less currency risk);

(3) Reduction of foreign exchange reserves needed to be held for liquidity and transactions demand purposes by the respective central banks or monetary authorities.

The Japanese Yen and the Renminbi and some other East Asian currencies have come of age, just as the Western European currencies recovered in the aftermath of World War II—it is no longer necessary to rely on a third currency for invoicing and settlement purposes.

The Renminbi is also increasingly used a store of value outside of the Mainland. In Hong Kong, Renminbi bank deposits held by its residents, including both individuals and firms, have grown rapidly in the past couple of years to slightly more than 12.5% (in January 2014) of total bank deposits in all currencies, attesting to the willingness of Hong Kong residents to accept and to hold the Renminbi (see Chart 20). Commercial banks in Taiwan have also recently begun to offer Renminbi deposit accounts. Renminbi deposits at the end of January 2014 accounted for 21% of foreign currency deposits and 3% of total deposits in Taiwan.

Chart 20: Renminbi-Denominated Bank Deposits in Hong Kong



Thus, the elimination of all forms of capital controls has not been necessary for the Renminbi to be used as a medium of exchange or a store of value outside Mainland China. There can be wide general acceptance of the Renminbi even in the absence of its full convertibility.

The use of the Renminbi as an international funding currency—that is, as a currency for loans and equity investment and other capital-raising exercises by individuals and firms outside the Mainland of China--will have to develop gradually and voluntarily as a certain scale is required for such use to be efficient. There have been Renminbi-denominated bond issues in Hong Kong by the Chinese Government, China Development Bank, Chinese enterprises and foreign enterprises (the so-called "Dim Sum" bonds). This market is likely to continue to grow in the future. More recently, the Hong Kong Monetary Authority has announced the establishment of a benchmark RMB interest rate known as the RMB Hong Kong Inter-Bank Offer Rate (HIBOR). The existence of such a benchmark rate should facilitate significantly the use of the RMB as an international funding currency.

Chart 21: Renminbi-Denominated Bonds Issued in Hong Kong

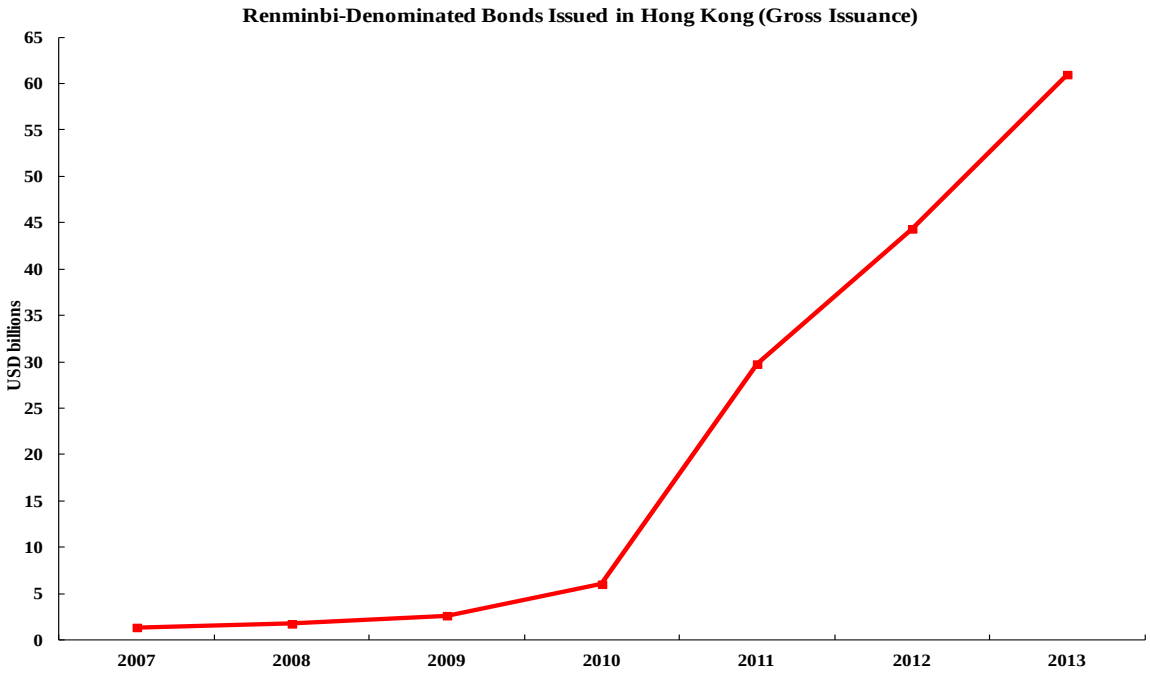
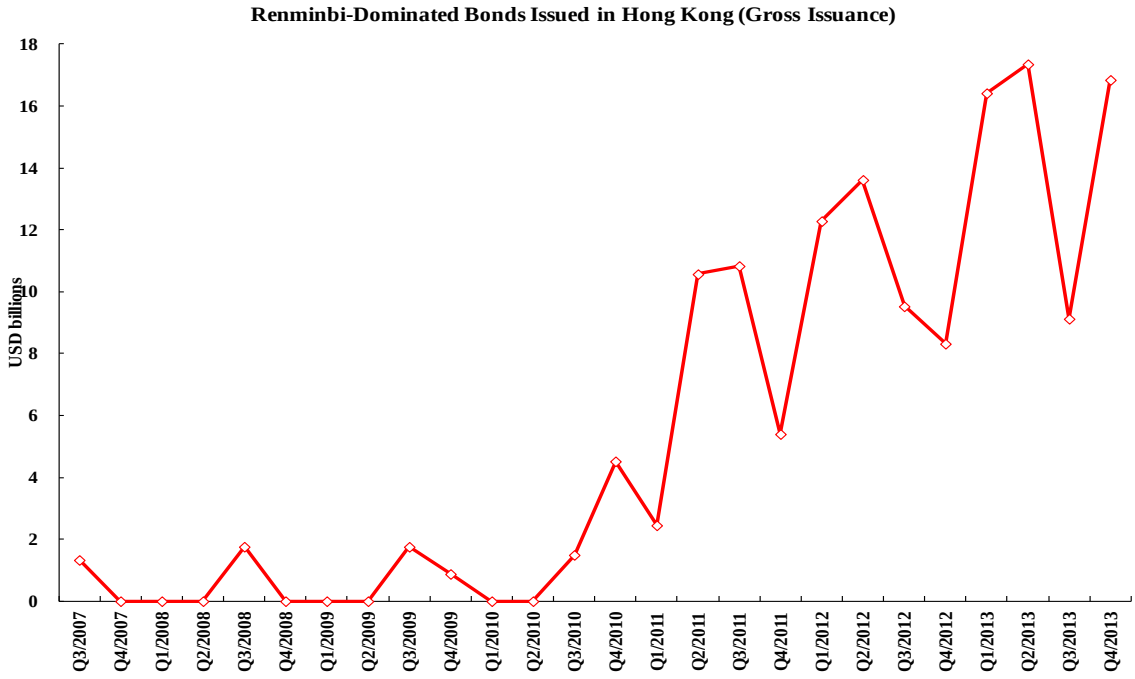


Chart 22: Renminbi-Denominated Bonds Issued in Hong Kong (Gross Issuance)



However, the expansion of the offshore Renminbi market may be constrained by a number of factors. First, since the Renminbi is expected to appreciate relative to the U.S.

(and hence Hong Kong) Dollar in the long run, it is risky for a borrower to borrow in Renminbi unless it has or expects to have a stable source of revenue denominated in Renminbi, such as direct investors on the Mainland. Second, the Renminbi funds raised offshore do not automatically qualify to be repatriated to the Mainland to be used there. Third, the pool of Renminbi deposits in Hong Kong is less than 1% of the total Renminbi deposits on the Mainland.

4. The Future Role of the Renminbi

It the future, it is possible that the Renminbi can be used directly in the trading of Renminbi-denominated securities, for example, on the Hong Kong Stock Exchange. If realised, this will allow (Mainland) Chinese investors to buy and sell these securities abroad even in the absence of capital accounts convertibility.

The Renminbi can also be used by other countries and regions to settle cross-border trade among themselves if they are not willing to accept one another's currency for whatever reason as long as they have access to Renminbi (and especially if one of the trading partners has limited access to the U.S. Dollar and/or the Euro, e.g., Iran and possibly Russia).

In 2012, approximately US$1.15 trillion, or 30%, of Chinese international trade is conducted with East Asian economies other than Hong Kong. (Hong Kong is a major export destination of Mainland China; however, a large proportion of its imports from China is re-exported from Hong Kong to other destinations, including the U.S. and Europe, around the World.) Moreover, while China runs a small trade surplus vis-a-vis the World as a whole, it runs a large trade deficit with East Asian economies other than Hong Kong. What this means is that the East Asian economies will have ample room to earn and accumulate Renminbi balances if they wish to do so. Thus, potentially, the Renminbi can not only be used as a settlement currency instead of the U.S. Dollar by Chinese exporters and importers with their trading partners in East Asia, but also by other East Asian economies in the settlement of trade transactions among themselves on a voluntary basis as they all have the ability to earn large quantities of Renminbi through their respective trade surpluses vis-a-vis China.

Chart 23: Chinese International Trade with East Asian Economies except Hong Kong

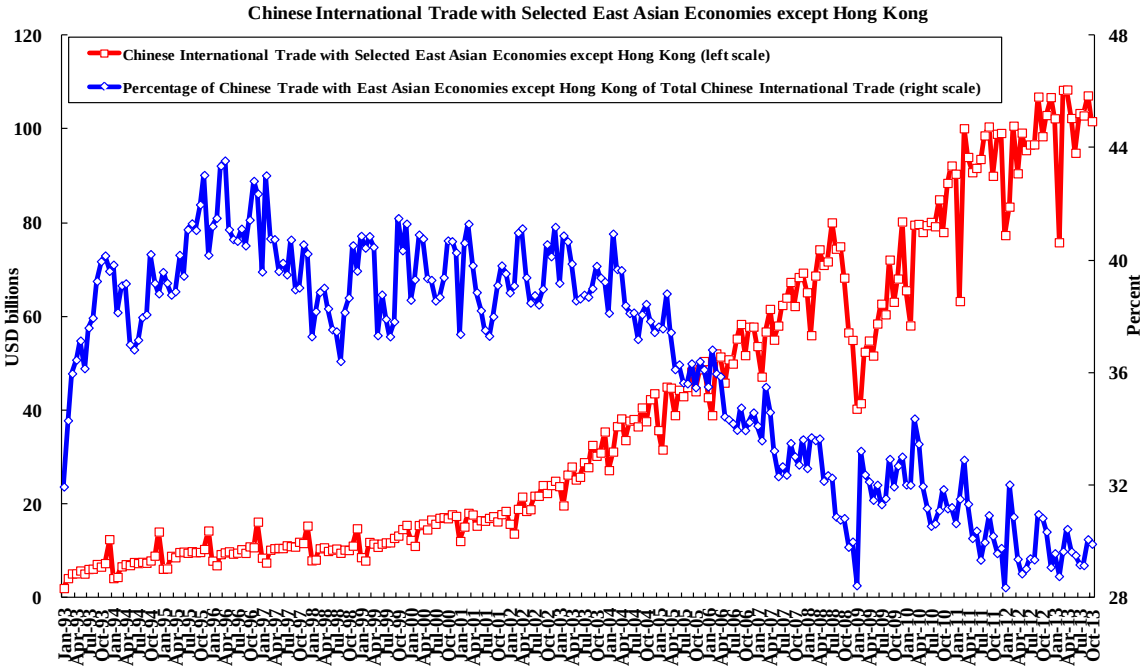
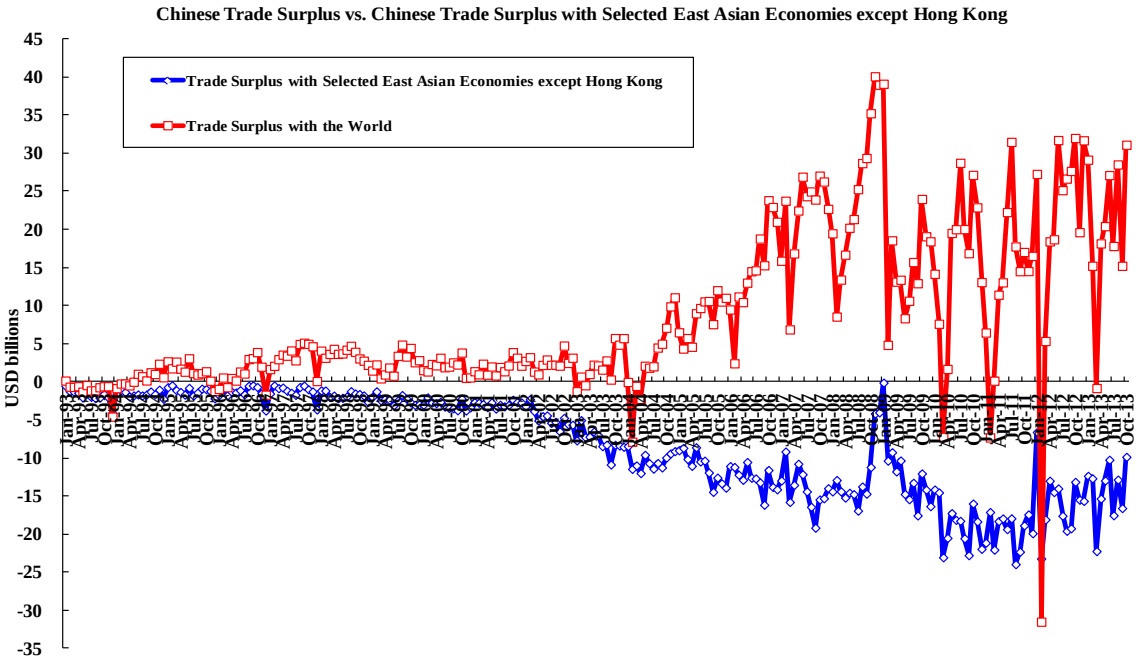


Chart 24: Chinese Trade Surplus with the World and East Asian Economies except Hong Kong



Eventually, it is possible that the East Asian economies may even issue bonds denominated in Renminbi because they all have a trade surplus vis-a-vis China and hence

will have the ability to service the Renminbi-denominated debt and the pool of Chinese savings is huge and Chinese investors are natural customers for Renminbi-denominated assets.

The long-term trend of the exchange rate of the Renminbi relative to U.S. Dollar is likely to hold steady or appreciate modestly over the next few years although there may well be fluctuations in the short term caused by speculative inflows and outflows. A stable or modestly appreciating exchange rate of the Renminbi should facilitate its further internationalisation. Capital account convertibility of the Renminbi is expected to be achieved before 2020. It can occur sooner if short-term capital flows, both outbound and inbound, can be appropriately "discouraged".

Full convertibility implies the removal of all controls on capital flows, inbound and outbound. International trade flows are relatively stable. Foreign direct investment flows, both inbound and outbound, are basically long-term in nature and hence also relatively stable on the whole. The same is true of long-term portfolio investment flows. However, short-term flows that are susceptible to abrupt changes in magnitude and direction (e.g., hot money) can greatly destabilise the financial markets of a country, including its foreign exchange market, credit market and capital market, impacting the real economy negatively. But the most compelling argument against short-term cross-currency international capital flows is that, with the exception of short-term trade-related financing, they are not socially productive.

Short-term cross-currency capital inflows cannot be usefully deployed in the destination country. When they are used to finance long-term investment in the destination country, they invariably lead to trouble because of the maturity mismatch, further exacerbated by the currency mismatch. Moreover, as they flow in and out of the destination country, they cause the exchange rate and/or the interest rate of the destination country to become excessively volatile, inhibiting not only the flows of cross-border trade and long-term investment but also the development of the domestic real economy. Thus, it is desirable to be able to distinguish between long-term capital flows, which should be encouraged, and short-term capital flows, which should be discouraged.

A Tobin tax, originally proposed by the late Prof. James Tobin, Nobel Laureate in Economic Sciences, can be an effective means of distinguishing between short- and long-

term capital flows.[3] It may be defined as a tax of say 1% on all spot conversions of a foreign currency into Renminbi or vice versa that are not related to underlying current-account transactions. Thus, foreign currency transactions related to the exports or imports of goods and services will be exempted from such a tax. In practice, even capital account transactions below a certain threshold level, say 2 million Yuan (approximately US$320,000 at current exchange rate), should probably also be exempted. Such a Tobin tax is intended to impose a penalty on short-term purely financial round-trip excursions from a foreign currency into the Renminbi or vice versa, and thereby discourage short-term cross-currency capital flows.

If every time a foreign currency is converted into Renminbi or vice versa, a tax of say 1% is levied, then a round-trip within a month would amount to an effective cost of more than 24% per annum, whereas for a direct investment with a long time horizon of say 5 years, the tax will amount to only 0.4% per annum, virtually nothing.

Will the Renminbi become a major international reserve currency like the U.S. Dollar and the Euro? Central banks consider many factors when they decide on the currencies and their relative proportions to hold as their foreign exchange reserves: safety, liquidity, transactions demand for trade and investment, credit worthiness, the relative investment opportunity and rate of return, and diversification. In particular, the "network" effect is important—central banks like to hold their foreign exchange reserves in currencies that other central banks also like to hold, thus greatly facilitating settlement among them and enhancing liquidity. That is why foreign exchange reserves are typically held in U.S. Dollars, Euros, Japanese Yen, and Swiss Francs.

While the Renminbi is not yet fully convertible, it may nevertheless be maintained as part of foreign exchange reserves by the central bank or monetary authority of another economy as long as there is a credible commitment by the People's Bank of China to convert any Renminbi balances presented by a foreign central bank into U.S. Dollars or Euros or any other so-called "hard" currencies. The huge foreign exchange reserves of the People's Bank, currently amounting to approximately US$4 trillion, underpin such commitments. Foreign

[3] In February 2013, the European Commission published proposals for a financial transaction tax (FTT), which is also a form of Tobin tax. Only 11 of the 27 member states of the European Union (EU), including France, Germany, Italy and Spain, will participate in the FTT.

central banks can then hold the Renminbi balances for potential transactions purposes with China or other economies willing to accept the Renminbi.

The People's Bank of China already has bilateral currency swap agreements in place with many central banks and monetary authorities such as those of Albania, Argentina, Australia, Belarus, Brazil, The Euro Zone, Hong Kong, Hungary, Iceland, Indonesia, Kazakhstan, Republic of Korea, Malaysia, Mongolia, New Zealand, Pakistan, Russia, Singapore, Thailand, Turkey, Ukraine, The United Arab Emirates, the United Kingdom and Uzbekistan, and many more such agreements are expected.[4]

There are both benefits and costs for a country's currency to be used by other countries as a major international reserve currency. One "benefit" is of course the "bragging rights", that the central banks of other countries and regions are willing to hold a country's currency is a positive affirmation of the economic performance of this country. The real economic "benefit" to the issuing country of a major international reserve currency is actually the seigneurage: the issuing country can pay for its imports by printing money (or what amounts to more or less the same thing, bonds). The citizens of the exporting country can either keep the foreign currency received themselves or sell it to its central bank. The central bank puts the foreign currency it purchases into its foreign exchange reserves and continues to hold it as assets in the form of deposits or bonds. So the issuing country is able to acquire real goods of real value with essentially pieces of paper which it can print at will—a great advantage.

The "cost" to the issuing country is that in order to really benefit from the seigneurage, it must in general run a trade deficit or become a long-term net purchaser of foreign assets. (If it has a chronic trade surplus, it does not need to print money (or bonds) to pay for its imports and other countries will have a hard time acquiring its currency.) And the larger the trade deficit, the larger is the benefit. However, a country with mercantilist tendencies does not like to run trade deficits and hence may not want its currency to become a major international reserve currency.

[4] The list of countries and regions is available on the website of People's Bank of China. (http://www.pbc.gov.cn/publish/huobizhengceersi/3135/index.html).

A further "cost" is the possibility that as a currency becomes widely held by the central banks and monetary authorities of other countries and regions as part of their foreign exchange reserves, it is subject to the risk that the foreign central banks and monetary authorities holding its currency and assets denominated in its currency may decide at some point, for economic as well as non-economic reasons, to stop holding this currency and sell all the assets denominated in this currency that they hold, potentially creating havoc to the exchange rate, the interest rate and the financial markets of the country issuing the currency.

A currency can be fully convertible without becoming a major international reserve currency, that is, without being widely held by central banks around the World in significant amounts as part of their foreign exchange reserves. For example, consider the Hong Kong Dollar and the Singapore Dollar. The Japanese Yen is fully convertible but the Japanese Government has not promoted its use by other countries as a major international reserve currency. Whether the Renminbi will eventually become a major international reserve currency remains to be seen, because there are both benefits and costs, as pointed out above.

China should avoid having the Renminbi exchange rate become an object of gambling and speculation by the hedge funds of the World. The daily volume of foreign exchange transactions worldwide amounts to approximately US$5.3 trillion. This is equivalent to approximately US$1.5 quadrillion per year. The total annual volume of international trade, including trade among countries and regions that do not require currency conversion such as within the Euro Zone, is approximately US$20 trillion, or only 1.3% of the total volume of foreign exchange transactions. Are all these transactions necessary?

What these statistics show is that the bulk of foreign exchange transactions consists of short-term gambling and speculation, causing unnecessary fluctuations in the currency exchange rates, which generate no benefits to real economies but create large profits for bankers handling these transactions (operating the casinos, so to speak, even though there have also been allegations of price-fixing in foreign exchange markets by the major banks. The volatility of the exchange rates caused by such speculation also benefits the U.S. Dollar as the dominant and only safe haven currency.

Settlement of international trade transactions between trading partner countries in their own currencies is preferred by both exporters and importers because it reduces

transactions costs and exchange rate risks. It also makes it less necessary to maintain large official foreign exchange reserves. However, one cannot, in general, expect international trade to be bilaterally balanced for every pair of trading partner countries. Under own-currency settlement, some countries may wind up with an excess amount of another country's currency while others may have an insufficient amount of another country's currency. Thus pooled settlement makes sense, so that within a given group of countries, the excess foreign currency held by one country can be used to offset the shortfall of another country. This netting out should work well within a group, especially if every country in the group has more or less balanced trade with the rest of the group as a whole. The Bank for International Settlements in Basel performed this group settlement function for the Western European countries in the 1950s and early 1960s as they recovered from World War II but had not yet developed the confidence in one another's national currencies. U.S. aid under the Marshall Plan underpinned the operation of the settlement system by providing U.S. Dollars to settle any remaining balance after netting out amongst the Western European countries.

A similar Bank for Intra-Asia Settlements can be established to perform the same function for Asian economies on a voluntary basis, enabling them, if they so choose, to settle in their own currencies. China, and perhaps also Japan, with their large official foreign exchange reserves, can provide any remaining settlements necessary in terms of either the Yuan (or the Yen) or another major international reserve currency such as the U.S. Dollar or the Euro.

The real exchange rate between two currencies is the exchange rate after adjusting for the relative rates of inflation between the two economies. Stable real exchange rates are beneficial to the real economy. Exporters, importers, direct investors and long-term portfolio investors all prefer stable real exchange rates. Voluntary real exchange rate coordination among a group of consenting countries and regions, in response to their current account surpluses and deficits and relative rates of inflation, can help to avoid the adoption of "beggar thy neighbour" policies by and potentially ruinous competitive devaluation among them. Moreover, if there were effective real exchange rate coordination among the group, it will facilitate the adjustment of the exchange rates en bloc vis-a-vis a major international reserve currency because then no one economy within the group will be relatively advantaged or disadvantaged. Under real exchange coordination, the relative exchange rate parities within

the coordinated group of economies will return to Bretton-Woods-like stability, but without the use of gold.

Such real exchange rate coordination is best carried out among a group of countries with extensive trade and investment relations among themselves such as the ASEAN + 3 on a voluntary basis. With effective real exchange coordination among a group of economies, any currency within the group is as good as any other currency within the group, including the Renminbi. If real exchange rate coordination is successful among East Asian economies—or the most important trading countries among them, it will eventually result in an East Asian "Currency Snake".

5. A Deliverable Forward Renminbi Market for Qualified Participants

During the transition of the Renminbi into a freely convertible currency, its use as an invoicing and settlement currency for cross-border transactions can be greatly facilitated if a deliverable forward Renminbi market is available for bona fide exporters and importers to hedge the Renminbi exchange rate risk. The challenge is, however, how to provide bona fide exporters and importers a low-cost instrument to hedge their exchange rate risks without creating a new avenue for gambling and speculative activities focusing on the Renminbi exchange rate that can only have negative effects on the Chinese real economy?

For this reason, such a deliverable forward market should only be opened to qualified participants such as bona fide exporters and importers of goods and services to and from China. The amount of deliverable Renminbi forward that is potentially available to each exporter or importer to buy or to sell should also be limited to no more than the value of its underlying committed trade transaction. Such a market can be established by the People's Bank of China, or by the Bank of China under the authorisation of the People's Bank. Having the People's Bank of China or the Bank of China establish the forward Renminbi market eliminates any potential counter-party risk for the exporters and importers who choose to buy and sell Renminbi forward to support their international trade transactions.

The primary purpose of this market is to provide a low-cost instrument for bona fide exporters and importers using the RMB as the invoicing and settlement currency in their cross-border transactions to hedge the exchange rate risk if they choose to do so. It is not

required of all the exporters and importers to hedge. None of these forward contracts should be transferrable. They should be viewed as "insurance" contracts, allowing the bona fide exporters and importers to hedge the specific exchange rate risks of their specific underlying trade transactions (that is, they must have "insurable" interests). It is not the purpose of this forward Renminbi market to help determine the forward exchange rate itself.

Pure speculators of Renminbi should not be allowed to participate in such a market because they do not have underlying international trade in goods and services transactions that require hedging of the Renminbi exchange rate risk. The proposed forward market should also not be available to foreign direct investors, both inbound and outbound, as they have investment time horizons that are typically more than two years, far too long for efficient and effective exchange rate hedging. Instead, they are much better off trying to match the currencies of the expected revenues and costs of their investment projects as well as their assets and liabilities in the respective investee countries and regions than to hedge their foreign exchange exposure in the market.

How should the price of the forward deliverable currency contract be set? In principle, a U.S. importer importing goods from China worth RMB 600 million Yuan to be delivered and settled in Renminbi in 12 months can eliminate the exchange rate risk altogether by buying an amount of spot RMB that together with the interest to be earned on a 12-month fixed Yuan deposit yields exactly 600 million Yuan in 12 months. Thus, if the RMB rate of interest for a 12-month fixed deposit is 3% per annum, the amount of spot RMB to be purchased is RMB 600 million Yuan/1.03=RMB 582.52 million Yuan, which, if put into a 12-month fixed deposit at 3% per annum, will yield exactly RMB 600 million Yuan upon maturity. This amount can then be used by the U.S. importer to settle the payment of its imports in Renminbi.

In order to do this, the U.S. importer will need to purchase the spot RMB with its US$ balances, and the cost to him is the US$ interest foregone during the same period. If the US$ and RMB interest rates for 12-month fixed deposits are the same, then there is no net interest cost to the U.S. importer for doing this. Thus, in order for the U.S. importer to find it advantageous to buy a forward Renminbi contract, the cost of the contract should be relatively low. Under the specified circumstances, a 12-month RMB forward contract can be offered to the U.S. importer by the People's Bank at the current spot rate plus only a small

service fee of say 1% of the contract amount, which is limited to be less than or equal to the value of the Renminbi-denominated order already placed by the U.S. importer to a Chinese exporter, evidenced by a confirmed bank letter of credit.

However, in order to ensure that the U.S. importer will perform in 12 months time, that is, will actually purchase the Renminbi at the spot rate on the date on which the contract is entered into in 12 months, it will be required to post a total deposit of say 5%, which includes the service fee of 1%, and which, apart from the service fee of 1%, can be applied to the purchase price of the Renminbi when the forward contract is exercised in 12 months. The net cost to the U.S. importer, assuming that it actually exercises the forward contract in 12 months, is thus 1% of the contract amount. Under this arrangement, the U.S. importer is able to purchase a pre-agreed quantity of Renminbi in 12 months at the currently prevailing spot exchange rate, at a net cost of only 1%.

However, if there were an interest-rate differential, then the pricing will have to reflect the interest-rate differential. If the RMB interest rate is higher than the US$ interest rate, the U.S. importer will profit by buying the Renminbi ahead of time because it will receive more RMB interest income than the US$ interest income that it gives up. There is, however, no need to offer special inducements to the U.S. importer to purchase a forward RMB contract at the current spot rate; the cost of the forward Renminbi contact can therefore be priced at the service fee of 1%, subject to an additional potentially refundable deposit of 4%, for a total of 5%. If the RMB interest rate is lower than the US$ interest rate, the U.S. importer will incur a net interest cost if it hedges by buying spot Renminbi with U.S. Dollars and holding the Renminbi as fixed deposits in a Renminbi bank account for 12 months. The U.S. importer will therefore be interested in buying forward Renminbi if it means its net cost of hedging can be lowered.

Consider a concrete example: Suppose the spot exchange rate is 6 Yuan/US$, the interest rates are respectively 1% per annum for RMB and 3% per annum for US$. Then the 12-month forward Yuan contract to buy at the current spot price should be based on a premium of not more than 2%, the interest rate differential, plus a service fee of 1%. A mid-value of the interest rate differential, 1% in this case, seems like a reasonable premium since the People's Bank is not in this market to make money but to provide a service with positive externalities (for the Chinese exporters, for example) and can afford to share the cost of

hedging with the U.S. importer. Under this proposed arrangement, the U.S. importer is able to purchase a pre-agreed quantity of Renminbi in 12 months at the same spot rate as prevailing currently, with a net cost of only 2%. (Of course, a total deposit of 5%, of which 3% is potentially refundable, will be required.)

What happens if the delivery is in 6 months' time rather than 12 months' time? In this case, the interest cost is halved, so that the 6-month forward Renminbi contract to buy at the current spot price can be offered at a service fee of 1% plus a premium of 0.5% (half of the interest cost differential for 6 months). A total deposit of 5% is required to secure the forward contract, of which 3.5% is refundable upon exercise of the purchase contract. If the delivery is in 24 months' time, the interest cost is doubled the 12-month case, so that the 24-month forward Renminbi contract to buy at the current spot price can be offered at a service fee of 1% plus a premium of 2% (half of the interest cost differential for 24 months). A total deposit of 5% is required to secure the forward contract, of which 2% is refundable upon exercise of the purchase contract 24 months hence.

Similarly, a U.S. exporter exporting goods to China which are invoiced in Renminbi and to be settled in Renminbi may also find it advantageous to sell the Renminbi forward so as to reduce its exchange rate risk. Suppose RMB 600 million Yuan worth of goods are to be delivered to the Chinese importer in 12 months. The U.S. exporter can eliminate the exchange rate risk altogether by selling an amount of Renminbi equal to 600 million Yuan on the spot market for US$ and then holding the US$ in fixed US$ deposits for 12 months. The net cost to the U.S. exporter is the interest on a 12-month fixed deposit of RMB 600 million Yuan less the interest on an equivalent amount of US$ fixed deposit for the same period.

If the US$ and the RMB interest rates are the same, then there is no net interest cost to be borne by the U.S. exporter. The 12-month forward RMB contract to sell at the current spot rate should be priced at only the service fee of 1% for the U.S. exporter, subject to a total deposit of 5%, of which 4% is potentially refundable upon exercise of the forward contract in 12 months. However, if the RMB interest rate is higher than the US$ interest rate, the U.S. exporter will be incurring some net interest cost. To induce the U.S. exporter to enter a contract to sell forward RMB, the forward contract must be so priced that it lowers the net cost of hedging to the U.S. exporter.

Consider a concrete example: Suppose the spot exchange rate is 6 Yuan/US$, the interest rates are respectively 3% per annum for RMB and 1% per annum for US$. Then the forward contract should provide for the sale of RMB at the current spot rate at a cost of not more than 2%, the interest rate differential. Again, a mid-value of 1% seems reasonable since the People's Bank is not in this market to make money and can afford to share the costs with the U.S. exporter. Of course, a 1% service fee should also be included. Thus, the forward contract will require a total deposit of 5%, out of which 3% is potentially refundable upon exercise of the forward contract.

If the RMB interest rate is lower than the US$ interest rate, the U.S. exporter can be earning some net interest income by selling the RMB for US$ on the spot market and holding the US$ in fixed deposits for 12 months. No additional inducement is therefore necessary. The forward contract may thus simply provide for the 12-month forward sale of RMB for US$ at the spot rate plus a small service fee of say 1%. The net cost to the U.S. exporter will be 1% even though a total deposit of 5% is required. A U.S. exporter with Renminbi balances or with Renminbi borrowing capacity (on the strength of its RMB-denominated order and letter of credit from the Chinese importer) may decide not to sell the RMB forward to the People's Bank and instead to do the hedging directly itself.

The above discussion may be summarised as follows:

If the RMB and U.S. interest rates are the same, then the costs of the forward RMB contracts to buy and to sell at the current spot rate should both be set at the service fee of 1%.

If the RMB interest rate is higher than the US$ interest rate, then the forward RMB contract for the foreign importer to buy at the current spot rate should be a small service fee of say 1%; the forward RMB contract for the foreign exporter to sell at the current spot rate should be a service fee of 1% plus half of the interest rate differential on a per annum basis. A total deposit of 5% will be required of both forward RMB contracts, a large part of which is potentially refundable. (If half the interest rate differential is more than 4% per annum, which is unlikely, then the total net cost per annum will be capped at 5%.)

If the RMB interest rate is lower than the US$ interest rate, then the forward RMB contract to buy at the current spot rate (by a foreign importer) should cost a service fee of 1%

plus half the interest rate differential on an annual basis and the forward RMB contract to sell at the current spot rate (by a foreign exporter) should cost only the service fee of 1%. In any case, a total deposit of 5% required.

Bear in mind that these forward purchases and sales of Renminbi should be viewed as insurance against unforeseen exchange rate changes for bona fide exporters and importers using Renminbi as the invoicing and settlement currency for their international trade transactions. They are intended to provide protection to the exporters and importers in the real economy from the possible volatility of the Renminbi exchange rate. The above framework for the determination of the forward RMB buying and selling rates has been proposed solely on this basis.

With the availability of these potential hedging instruments for foreign exporters and importers, they are much more likely to accept invoicing and settlement of international trade transactions in Renminbi, which are of great benefit not only to them but also to Chinese importers and exporters whose transaction costs are significantly reduced and whose exchange rate risks are eliminated altogether with invoicing and settlement in Renminbi.

According to the interest rate parity theory, an interest rate differential in favour of the RMB suggests that the RMB is likely to devalue with respect to the US$. Thus, a forward RMB contract to buy at the current spot rate in terms of the US$ should not cost anything significant beyond the service fee; but a forward contract to sell at the current spot rate should have a positive net cost. However, the interest rate parity theory is strictly true and applicable only if there is free capital mobility both inbound and outbound. Such a condition is not satisfied for China at the present time. Nevertheless, our proposed pricing of the forward Renminbi contracts are consistent with the directions predicted by the interest rate parity theory.

6. Concluding Remarks

The centre of gravity of the global economy has been gradually shifting to East and South Asia from North America and Europe over the past several decades. The centre of gravity of the East Asian economy has been gradually shifting to China from Japan. The transition is still ongoing. Paradoxically, the global financial crisis of 2007-2009 has

accelerated the pace of internationalisation of the Renminbi. China will be internationalising the Renminbi gradually and in a planned and orderly manner. It has already made a beginning by allowing the Renminbi to be used on a voluntary basis as an invoicing and settlement currency in its international trade transactions. The use of the Renminbi for the denominating, invoicing, clearing and settlement of Chinese international transactions will continue to rise over time, especially in its trade with East Asian economies. Chinese trade with the U.S. and Europe will probably continue to be denominated and settled in U.S. Dollar and Euro respectively.

The Renminbi may perhaps even be used in the settlement of trade among East Asian economies themselves, on a voluntary basis. This is because almost all East Asian economies have a trade surplus vis-a-vis China and hence can have a ready supply of Renminbi to be used for settlement of trade among themselves if they so wish. To the extent the East Asian economies may potentially have an excess of Renminbi it may be more economically and efficient for them to settle in Renminbi than in U.S. Dollars because it will involve one fewer currency conversion.

Capital account convertibility of the Renminbi, in the sense that both inbound and outbound capital controls will be effectively lifted, is expected to be achieved before 2020. It can occur sooner if short-term speculative capital flows (hot money), both outbound and inbound, which do not do the real economy any good, can be appropriately "discouraged". The imposition of a Tobin tax on cross-border capital flows, which effectively differentiates between short-term and long-term capital flows, may be useful in controlling the inflow and outflow of hot money.

It is important to note that full convertibility of the Renminbi does not necessarily imply that its exchange rate will be freely determined in the foreign exchange market. The Renminbi will probably continue to be determined under a managed floating rate system. The Hong Kong Dollar is an example of a fully convertible currency that does not have a freely fluctuating exchange rate.

It is not at all clear whether it is in China's best interests to have the Renminbi become a major international reserve currency like the U.S. Dollar and the Euro. To benefit from the seigneurage of being a major international reserve currency that is widely held by

central banks elsewhere in the World, China will likely have to run a significant trade deficit which it may not be willing to do. Moreover, there is also the risk of other central banks deciding to dump the currency and assets denominated in the currency at inopportune times.

The Renminbi does not and should not aim to replace the U.S. Dollar as a major international reserve currency. Instead, it should play a supporting role in the evolution of the international monetary order to a more stable and sustainable set-up, for example, in enabling own-currency settlement by the individual economies. China can take the lead in promoting and enabling such practices among East Asian countries and regions, by supporting the establishment of a Bank for Intra-Asian Settlements, to provide services similar to those provided by the Bank for International Settlements to Western European economies in the 1950s to enable them to settle their trade transactions in their own currencies. A further initiative that China can also lead and promote is real exchange rate coordination among East Asian economies.

During the transition of the Renminbi into a freely convertible currency, its use as an invoicing and settlement currency for cross-border transactions can be greatly facilitated if a deliverable forward Renminbi market is available for bona fide exporters and importers to hedge the Renminbi exchange rate risk. Such a market, established and maintained by the People's Bank of China or by the Bank of China under the authorisation of the People's Bank of China, can potentially generate significant positive externalities as under Renminbi invoicing and settlement of international trade transactions Chinese exporters and importers face significantly lower transaction costs and exchange rate risks.